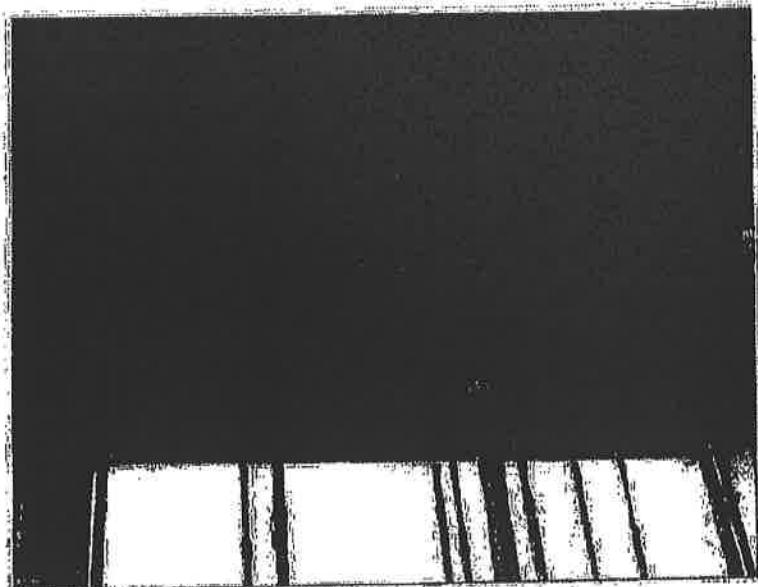


C-5149-14-H

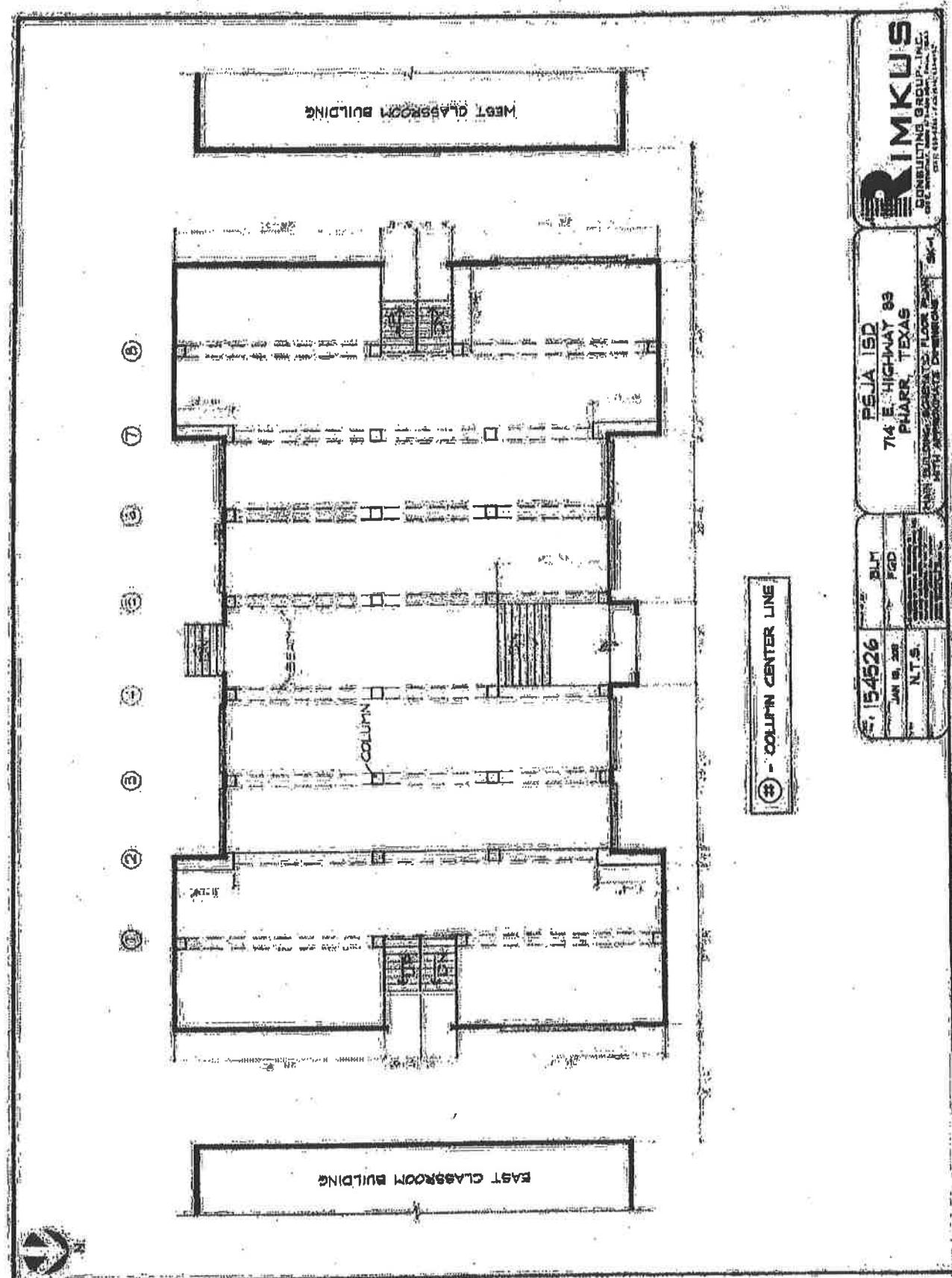
Photograph 19

Concrete header supported by load-bearing masonry at north window in west wall at second floor of main building.



January 21, 2011
RCG File No. 154526

C-5149-14-H



C-5149-14-H



**BRUCE L. MORRIS, M.C.E., P.E.
PRINCIPAL CONSULTANT**

Mr. Morris is a 1969 graduate of Rice University with twenty-five years experience in research and development of response of structures and equipment to dynamic, blast-induced loadings. Analysis of existing structures to dynamic loadings and design of structures to resist explosive loadings. Design and analysis of structures to resist ballistic penetration.

Mr. Morris' areas of expertise include: evaluation of the response of various structural types - reinforced concrete, steel frame, reinforced and non-reinforced masonry, and wood-frame to dynamic, blast-induced loadings; design of reinforced concrete structures to resist the effects of accidental explosions; design, conduct, and evaluation of tests to simulate explosive and other dynamic events; and evaluation of the ability of materials to resist ballistic penetration. He has written computer codes to simulate the response of vehicles and vehicle components to explosive loadings from landmine detonations and has verified the accuracy of those simulations through comparison to experimental data. He has evaluated the effects of process plant explosions on surrounding structures and has served as a principle author for the revision of the U.S. Army Engineering Design Handbook *Armor and Its Applications*.

Since joining Rimkus Consulting Group, Inc., Mr. Morris has been involved in the evaluation of damage to residential and commercial structures and their foundations, evaluation of the effects of internal explosions in residential and commercial structures, and in the evaluation of damage produced by vibrations from construction-related equipment and from external explosions. Mr. Morris has also evaluated the effects of sonic booms on structures and has evaluated weather effects on roofs of commercial structures. Mr. Morris has also provided expert testimony in his areas of expertise.

EDUCATION AND PROFESSIONAL ASSOCIATIONS

M.C.E. - Master of Civil Engineering - Rice University
B.A. - Civil Engineering - Rice University
P.E. - Registered Professional Engineer - Texas and Florida

EMPLOYMENT HISTORY

1994 - Present
1980 - 1994
1975 - 1980
1969 - 1975

Rimkus Consulting Group, Inc.
Southwest Research Institute
Defense Intelligence Agency, Arlington, Virginia
U.S. Army Mobility Equipment Research and Development
Center, Fort Belvoir, Virginia



C-5149-14-H

Frank Lam & Associates, Inc.
Consulting Engineers

Registration No: F-2545

Report

Date: October 18, 2010

To: Mr. Eli Ochoa, P. E.
ERO Architects

Re: Structural Investigation of
Partial Collapse of the Main Building
PJSA ISD T-Stem Early College High School
714 E. U.S. Highway 83, Pharr, Texas
FLA 2010.47

Introduction:

At your request, we performed two field trips to the above referenced project. The first one was performed on 9-22-2010 and the second one was performed on 10-8-2010. The purpose of the field trips was to observe the condition of the partially collapsed building and to gather data for an engineering report. The second field trip also involved a meeting with the representatives from the School, ERO Architects, and the Contractor. At the meeting, Frank Lam & Associates was requested by the School to prepare an engineering report to document the findings of the observation and investigation.

Documents reviewed:

Demolition Drawings and Notes prepared by ERO Architects dated 2-24-10.

Descriptions of original structures:

The school buildings are consisted of the Main Building in the middle, the East and West Wings, and the East and West Links which are connected to the Main Building and the two Wings. The Main Building has a basement, first floor near ground level, and second floor and is constructed of reinforced concrete slab and beams and columns and exterior load bearing masonry walls. The two wings and the links have a first floor at ground level and a second floor and are constructed of reinforced concrete slab and beams and columns. See plans on attached drawings SD1 to SD3. The area that the collapse occurred is at the west side of the Main Building. The concrete slab and beams at the second floor and the roof are partially supported by masonry columns at the building corners and at the entrance corridor and partially supported by exterior load bearing masonry wall which is constructed of brick veneer and clay tiles. There are two large openings in the masonry wall and the concrete beams would act as headers across the openings. The opening at the south side was later filled with unreinforced concrete masonry units. The later addition of the Wings and the Links attached to the Main Building without an expansion joint. The Links are supported by cast in place concrete

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columns and beams poured against and plastered around the existing masonry columns. The masonry columns are part of the load bearing walls supporting the floor and roof of the Main Building. See wall section on attached drawing SD4.

Portion of the proposed demolition involves the removal of the Link structure between the Wings and the Main Building. These include the concrete slab of the second floor and the roof, concrete columns against the Wing and the Main Building, and the two levels of tie beams between the columns. The limit of demolition stops at the face of the exterior walls of the Main Building and the Wings.

Site Observation:

West Side of Main Building:

The West Link structure was almost completely demolished except the concrete columns and tie beams attached to the Main Building. See Photos 18, 19, and 20. In general, the masonry walls of the Main Building appear to be in satisfactory condition except at the two hollow masonry columns located at the stair. The masonry columns are sitting on top of concrete columns which are terminated near the floor level. Structural cracks are observed above the concrete columns. See Photos 21 and 22. These cracks and the hollow masonry columns must be addressed prior to future work on the building.

East side of Main Building:

The East Link structure was completely demolished with the exception of some rebar spanning between the buildings. During the demolition of the link, an approximately 12 ft by 60 ft long section of the west side of Main Building was also damaged and collapsed. See plans on drawings SD2 and SD3 and Photos 1 to 17. The collapsed members include the concrete beams and slab at the second floor and roof, load bearing clay tile and brick veneer walls, exterior masonry columns, and concrete masonry unit infill at the wall opening. Part of the second floor and roof slab is still hanging by the rebar and the two wing walls at the north and south of the building are still remaining but have suffered severe damages and separation. The floor and roof beams had rotated and pulled out from the masonry walls, leaving a pocket in the walls. See Photos 2, 11, and 17. It appears that the collapse stops at the first interior beam along Grid 15. See plans on drawing SD2 and SD3.

Probable cause of collapse and sequence of events:

It is evident that the collapse of the second floor and roof slab and beams are result of structural failure of the columns and load bearing walls. The initial cause of failure of the vertical members is not as apparent and could be a combination of several factors. The sequence of events starts with the north concrete column supporting the East Link structure being forced to displace outward during the process of demolition. The lack of expansion joint between this concrete column and the masonry column supporting the Main Building allowed the two columns to bond together. The outward movement of the concrete column creates a lateral force on the masonry column. The hollow and unreinforced masonry column is subjected to axial and lateral force and does not take long to buckle and collapse. With the collapse of the first masonry column, the adjacent clay tile and brick wall panel starts to fail and move outward because there is no connection between the wall and the slab. As a result of the failure of the columns and

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wall, the slab and concrete beams above are loosing support and start to deflect and rotate. At the same time, the weight of the slab and wall above starts to shift to the other masonry column and overloads the column and wall panel. When the beams loose the center supports, the slab starts to deflect downward under its own weight and suffers both shear and flexural failures. When the second floor beam and slab fails the load bearing wall supporting the roof structure starts to fall, causing failure in the roof slab similar to the floor slab. The structure finally reaches equilibrium when the slab collapsed and detached from the end walls and the beam pulls out from the masonry pockets.

The origin of the force that starts the failure of the north masonry column is related to the demolition means and methods. It could be excessive force from the high impact chipping hammer working on the concrete frame. As mentioned previously, the collapse of the structure is probably due to a combination of several factors: Contractor's means and methods during the demolition and lack of protection of the existing structure, issues related to the original design and construction, and pre-existing conditions. The building was designed primarily as concrete frame structure except clay tile wall was designed as load bearing wall to support the concrete slab and beams at the exterior of the building. Individual columns supporting the exterior concrete beams are made of clay tiles or bricks, forming a box shape vertical structure. There is no concrete or reinforcing inside the columns and there is no connection between the concrete beams and the clay tile columns other than a beam pocket. As a result of the lack of restrain at the top of the column any significant lateral force acting on the column will destabilize the column. The construction method of the concrete columns supporting the Links also contributes to the failure of the building. The new concrete columns were cast against the existing masonry walls and columns without expansion joint and the columns were plastered together and creating a bond between them. This condition does not allow the columns to move independently and allows force transfer between them; and as a result, impact from the chipping hammer hitting the concrete column in the Link could have created distress in the masonry column in the Main Building. Another factor that contributes to the collapse of the structure is the pre-existing conditions of the clay tile walls and masonry columns. Pre-existing conditions include cracks and spallings in the clay tiles and masonry which would have weakened the structure and reduced the load carrying capacity.

In conclusion, it is our opinion that the collapse of the structure is caused by demolition means and methods, and to a lesser degree the pre-existing conditions and the design and construction of the original buildings.

Recommendations for repair:

East of the Main Building:

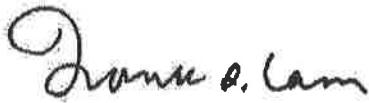
We recommend that the partially collapsed slab be removed to the face of the beams at the first interior grid line 15. See plan on drawing SD2. The remaining clay tile and masonry walls at the north and south of the building shall be removed to the west of grid 15. New steel structure shall be installed to replace the collapsed slab. Install concrete masonry unit (CMU) wall to the inside of existing wall along grid line A and grid line H and between grid lines 13 and 15 and turn the corners to the masonry columns at B-13

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and G-13;

West of the Main Building:

Prior to further demolition, the existing load bearing walls shall be strengthened. We recommend the installation of CMU walls similar to the east side. CMU walls shall be installed along the exterior wall at grid line 5 and turn the corners to grid line 8 along grids A and H. The wall shall terminate at masonry columns B-8 and G-8.



Frank S. Lam, P. E.
Frank Lam & Associates, Inc.

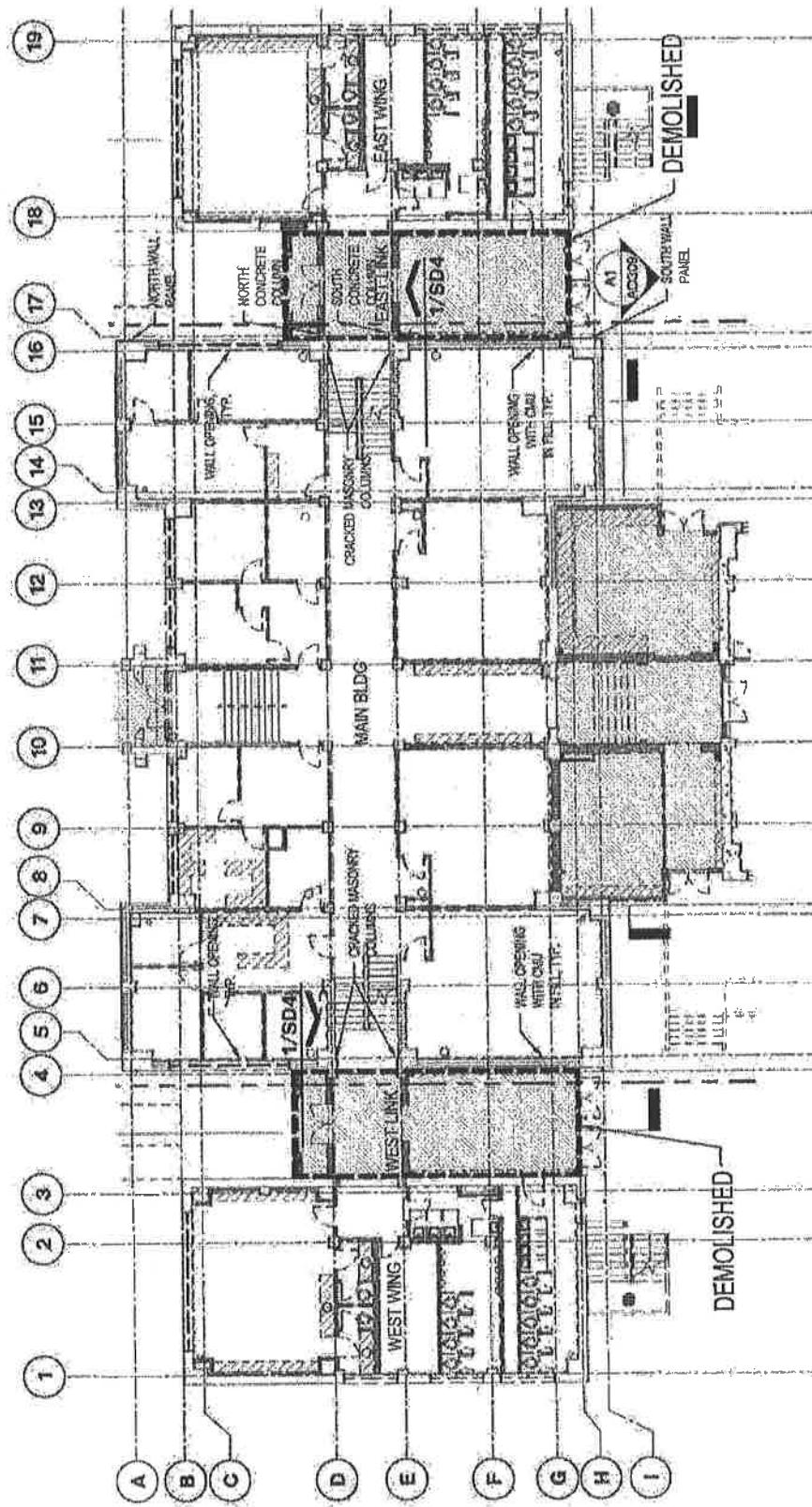
Attachments: Drawings SD1 to SD4 in 11x17
Photos sheets A1 to A6.



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SD1

ATTACHMENT B- DRAWINGS

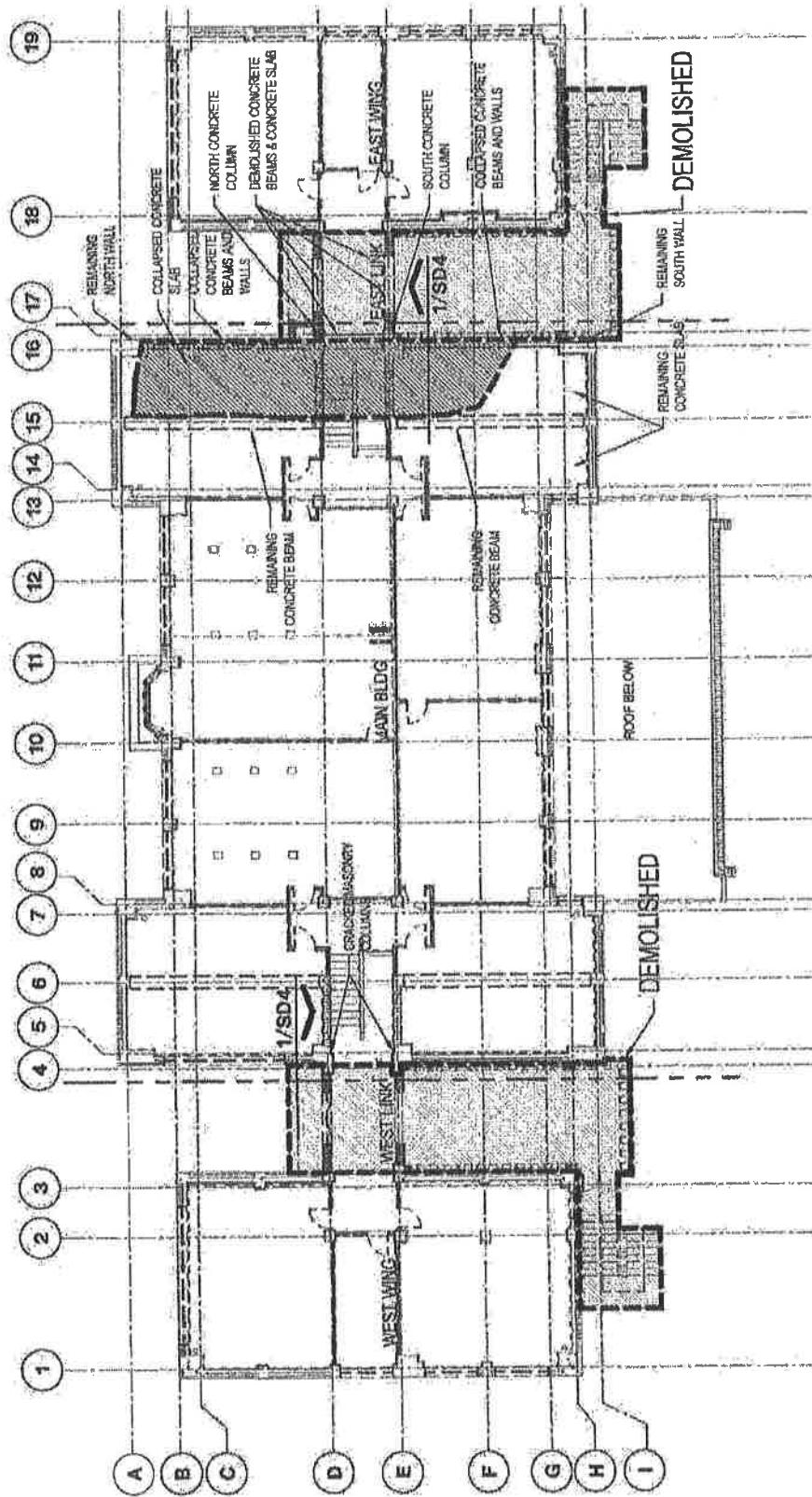


① FIRST FLOOR PARTIAL
DEMOLITION PLAN
SCALE: 1/16" = 1'-0"
NORTH

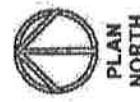
C-5149-14-H

SD2

ATTACHMENT B- DRAWINGS



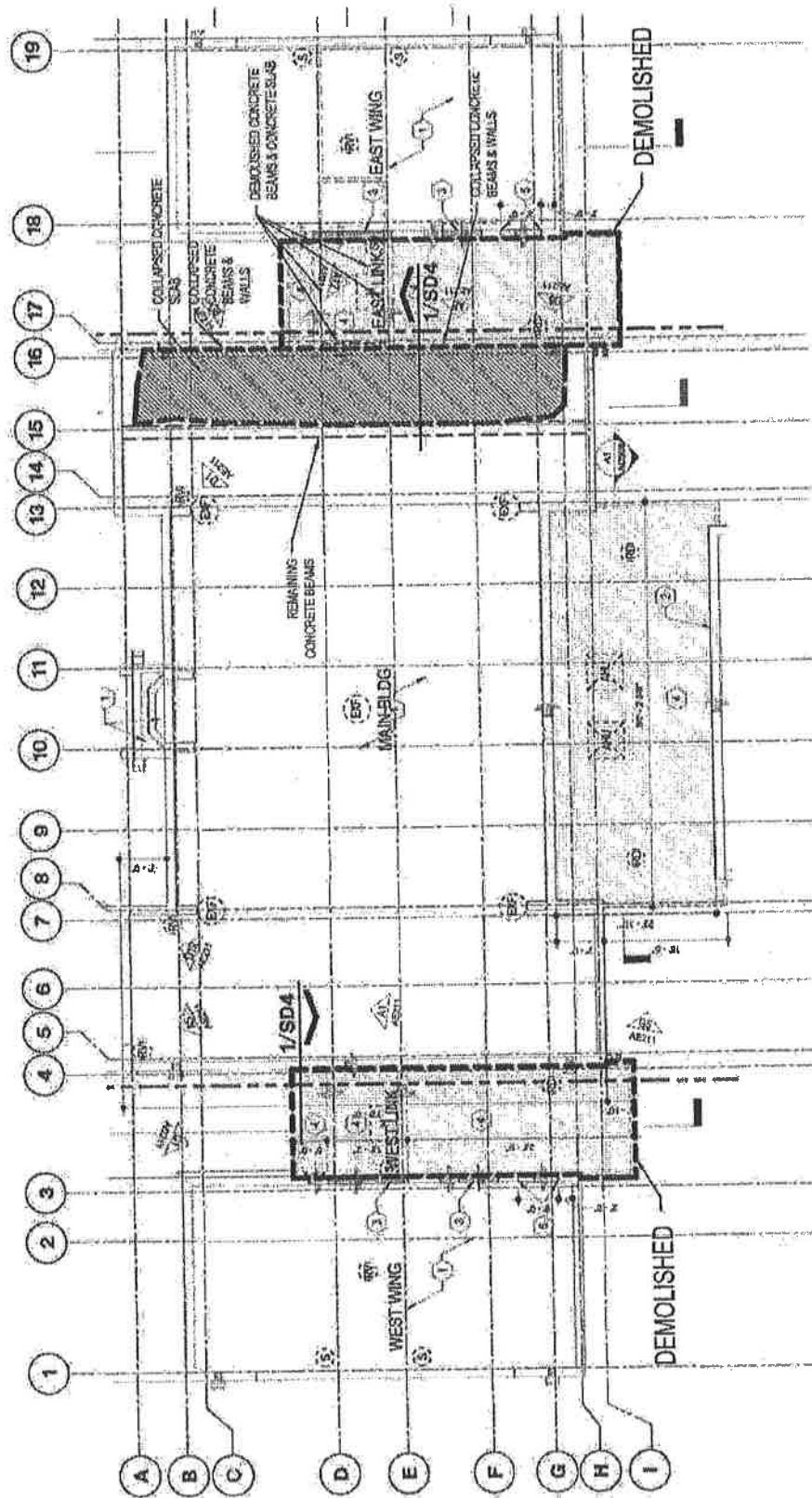
① SECOND FLOOR PARTIAL
DEMOLITION PLAN
PLAN NORTH
SCALE 1/64 = 1'-0"



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SD3

ATTACHMENT B- DRAWINGS



① ROOF PARTIAL
DEMOLITION PLAN

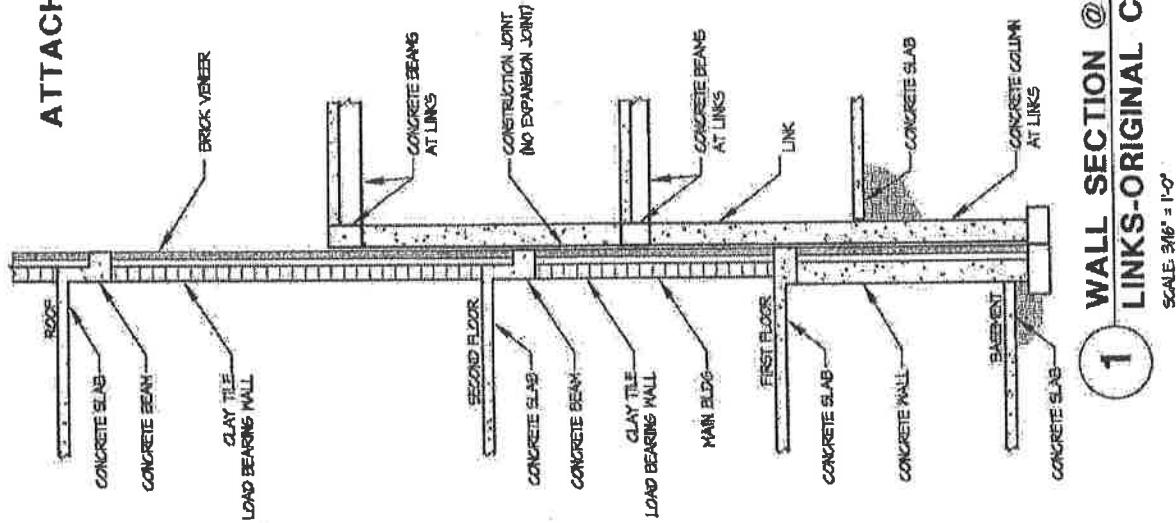
SCALE 1/8" = 1'-0"



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SD4

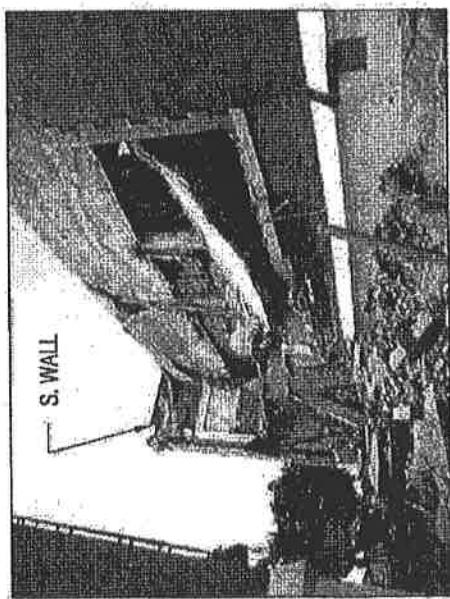
ATTACHMENT B- DRAWINGS



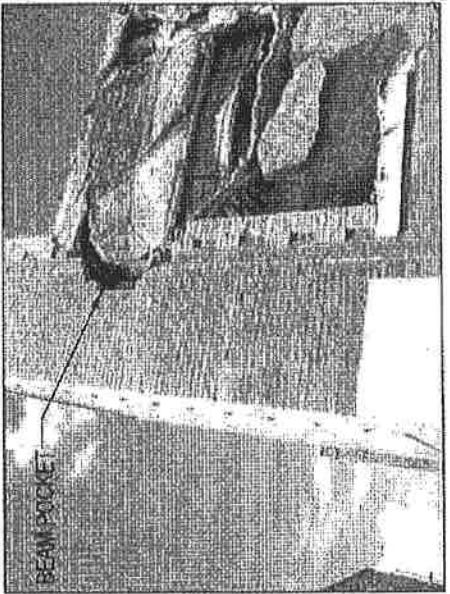
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A1

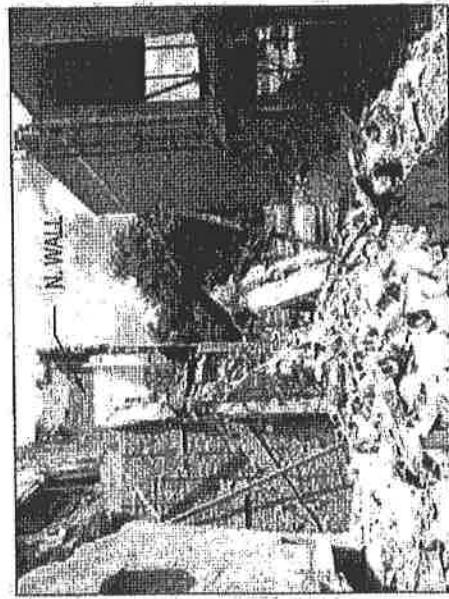
ATTACHMENT A- PHOTOS



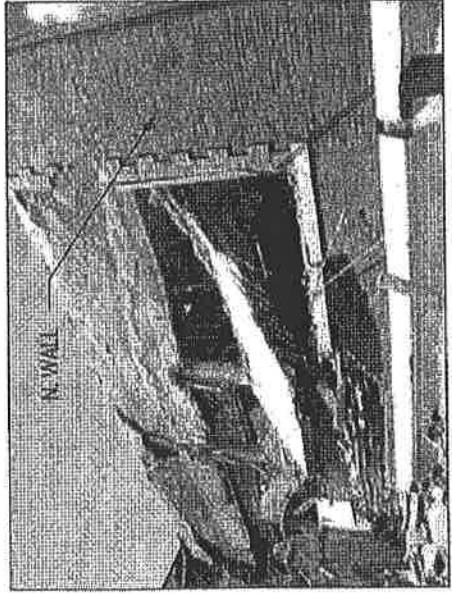
1 - COLLAPSED SLAB AND REMAINING SOUTH WALL



2 - BEAM POCKET AT SOUTH WALL



3 - COLLAPSED SLAB AND REMAINING NORTH WALL



4 - COLLAPSED SLAB AND REMAINING NORTH WALL

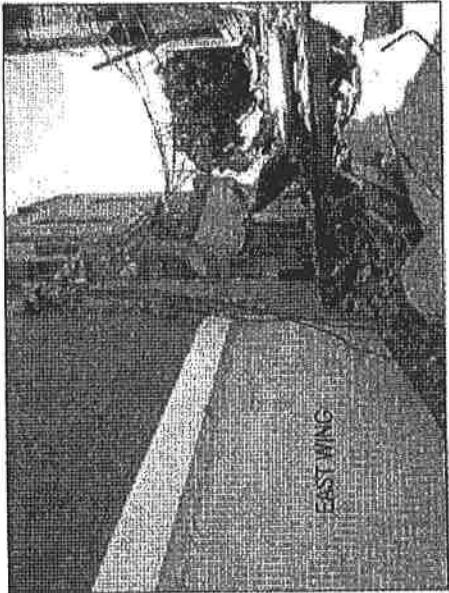
C-5149-14-H

A2

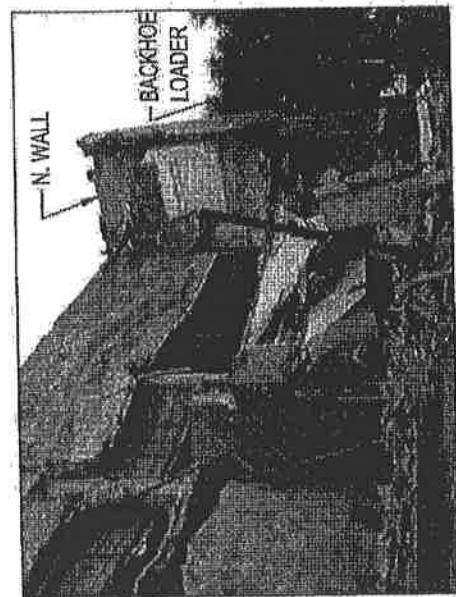
ATTACHMENT A- PHOTOS



5 - COLLAPSED STRUCTURE AT EAST LINK SHOWING
REMAINING REBAR



6 - COLLAPSED EAST LINK AND EAST WING



7 - BACKHOE LOADER NEAR NORTHEAST CORNER



8 - VOLVO B160 BACKHOE LOADER WITH HIGH IMPACT
CHIPPING HAMMER

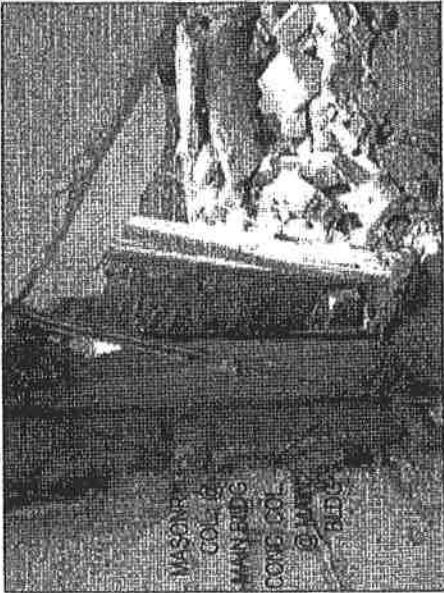
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A3

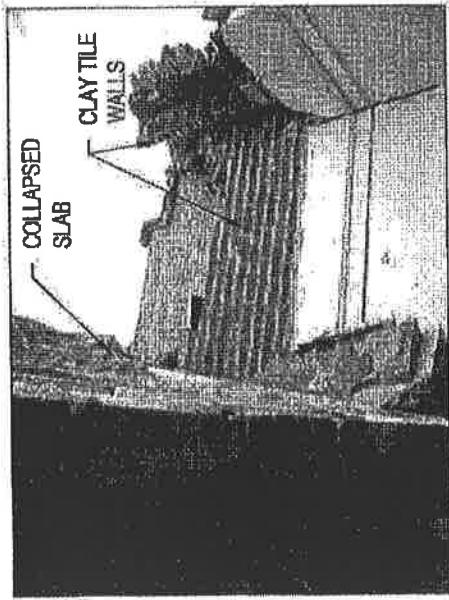
ATTACHMENT A- PHOTOS



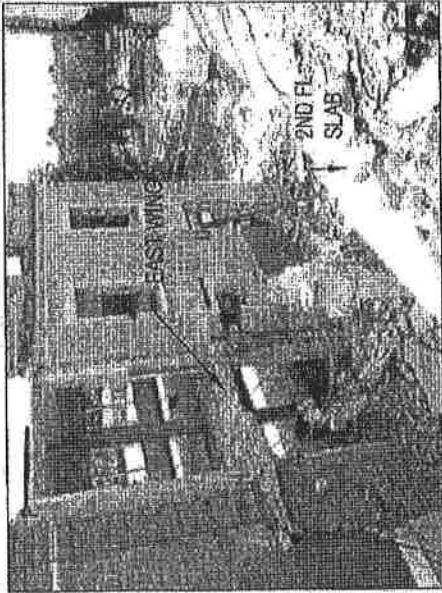
9 - HIGH IMPACT CHIPPING HAMMER



10 - PARTIALLY COLLAPSED COLUMN AT EAST LINK GRIDS D&E



11 - COLLAPSED ROOF SLAB AT NE CORNER

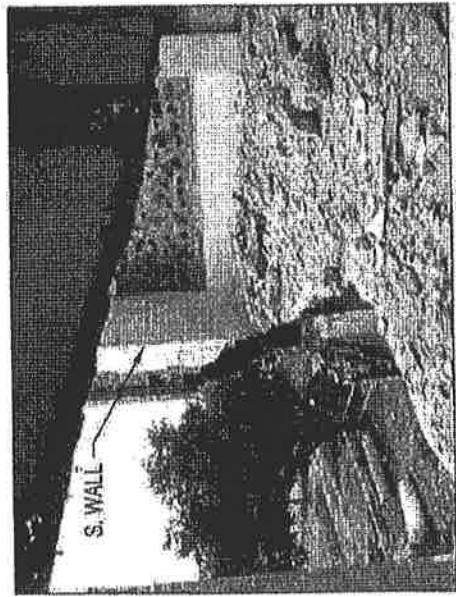


12 - COLLAPSED 2ND FLOOR SLAB & EAST WING SLAB

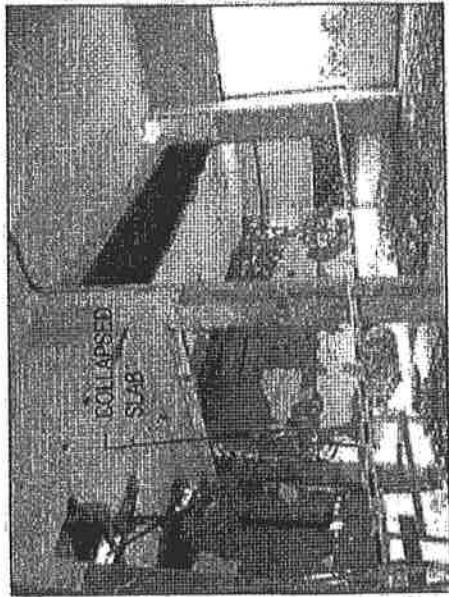
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A4

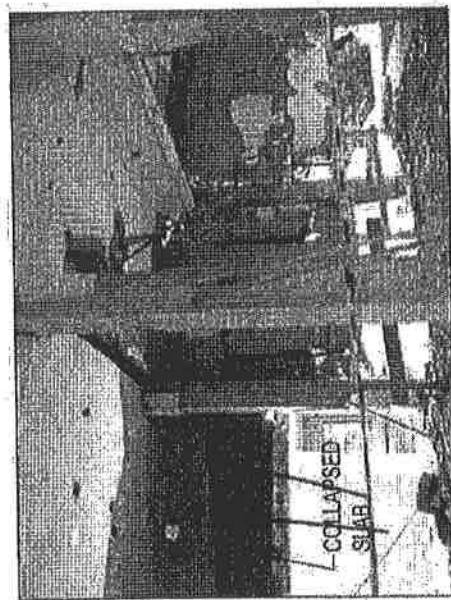
ATTACHMENT A- PHOTOS



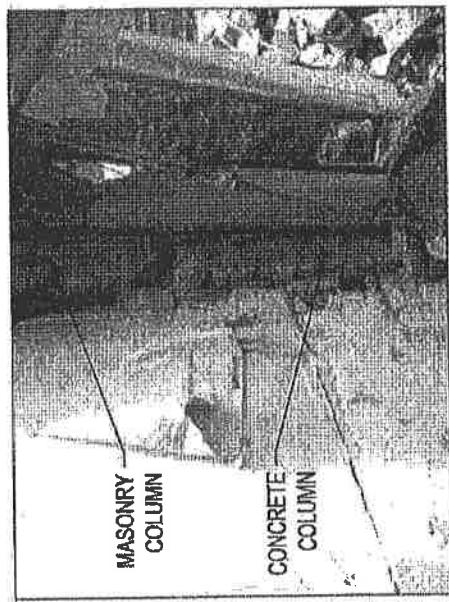
13 - COLLAPSED 2ND FLOOR SLAB AT S/E CORNER



14 - COLLAPSED ROOF SLAB LOOKING FROM INSIDE OF BLDG



15 - COLLAPSED ROOF SLAB LOOKING FROM INSIDE OF BLDG

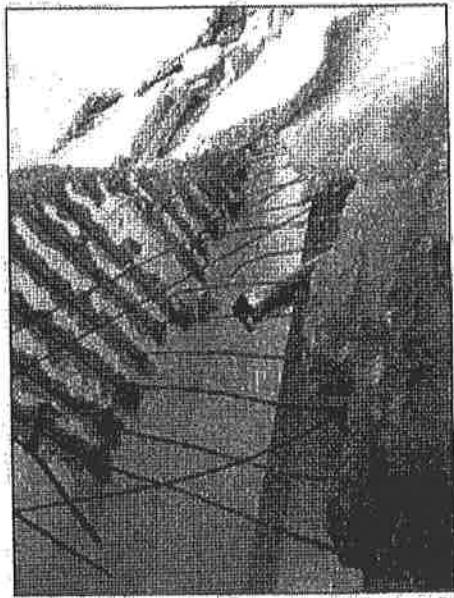


16 - PARTIALLY COLLAPSED COLUMN AT EAST LINK GRIDS D&E

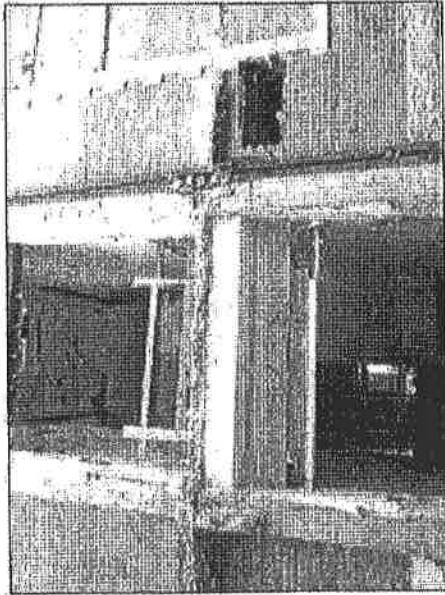
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A5

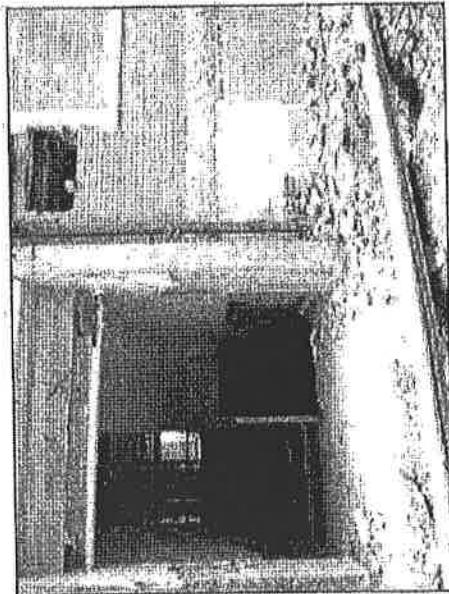
ATTACHMENT A- PHOTOS



[17] - BOTTOM OF COLLAPSED 2ND FL SLAB SHOWING
DE-BONDING OF REBAR



[18] - DEMOLISHED CONCRETE FRAME AT WEST LINK & WEST OF
MAIN BLDGS



[19] - DEMOLISHED CONCRETE FRAME AT WEST LINK & WEST
OF MAIN BLDGS



[20] - CONCRETE MASONRY COLUMN AT WEST OF MAIN BLDGS
SHOWING CRACKS

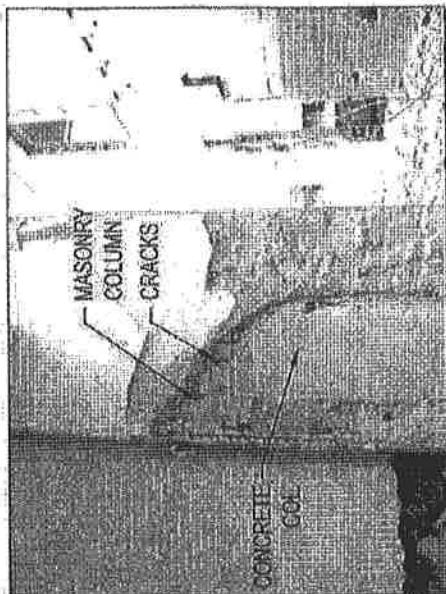
C-5149-14-H

A6

ATTACHMENT A- PHOTOS



[21] - CRACKED MASONRY COLUMN AT WEST OF MAIN BLDG



[22] - CRACKED MASONRY COLUMN AT WEST OF MAIN BLDG

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12/12

Office of the Superintendent of Schools
Board Meeting of January 17, 2011

December 8, 2010

Office of Support Services
Rene Campos, Assistant Superintendent

SUBJECT: CHANGE ORDER #1 - (T-STEM) EARLY COLLEGE HIGH SCHOOL

Mr. Eli Ochoa, Architect with ERO Architects recommends approval of change order #1 for Early College High School for an increase of \$522,726.00. The change order is as follows:

\$8,087,000.00	Original Contract
	Change Order #1-To remove and built East and West
<u>\$522,726.00</u>	side walls at the Early College High School.
\$8,609,726.00	New contract amount

It is recommended that the Board of Trustees approve Change Order #1 for T-STEM Early College High School for an increase of \$522,726.00.

THIS ITEM DOES NOT ESTABLISH, MODIFY, OR DELETE BOARD POLICY OR ADMINISTRATIVE PROCEDURE.

RECOMMENDED: That the Board of Education approve Change Order #1 for (T-STEM) Early College High School for an increase of \$522,726.00, effective January 18, 2011.

A

C-5149-14-H


AIA® Document G701™ – 2001
Change Order

PROJECT (Name and address):	CHANGE ORDER NUMBER: 001R	OWNER: <input checked="" type="checkbox"/>
Pharr-San Juan-Alamo Independent School District - Early College High School	DATE: January 17, 2011	ARCHITECT: <input checked="" type="checkbox"/>
		CONTRACTOR: <input checked="" type="checkbox"/>
		FIELD: <input type="checkbox"/>
		OTHER: <input type="checkbox"/>
TO CONTRACTOR (Name and address):	ARCHITECT'S PROJECT NUMBER: 09007	
Texas Descon, L.P., by Descon 4S, L.L.C. It's General Partner P.O. Box 3547 McAllen, Texas 78502-3547	CONTRACT DATE: May 4, 2010	
	CONTRACT FOR: General Construction	

THE CONTRACT IS CHANGED AS FOLLOWS:

(Include, where applicable, any undisputed amount attributable to previously executed Construction Change Directives)
 Change Order issued to change Scope of Work as indicated in Phase 1 Renovations and Additions to Early College High School letter sent in by Texas Descon on December 21, 2010.

Total Amount \$522,726.00

The original Contract Sum was	\$ 8,087,000.00
The net change by previously authorized Change Orders	\$ 0.00
The Contract Sum prior to this Change Order was	\$ 8,087,000.00
The Contract Sum will be increased by this Change Order in the amount of	\$ 522,726.00
The new Contract Sum including this Change Order will be	\$ 8,609,726.00

The Contract Time will be increased by thirty (30) days.

The date of Substantial Completion as of the date of this Change Order therefore is June 27, 2011.

NOTE: This Change Order does not include changes in the Contract Sum, Contract Time or Guaranteed Maximum Price which have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive..

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.

ERO Architects

Texas Descon, L.P., by Descon 4S, L.L.C.

Pharr-San Juan-Alamo Independent School District

OWNER (Firm name)P.O. Box 769
Pharr, Texas 78577**ADDRESS****ARCHITECT (Firm name)**300 S. 8th Street
McAllen, Texas 78501**CONTRACTOR (Firm name)**P.O. Box 3547
McAllen, Texas 78502-3547**ADDRESS****BY (Signature)**

Eli R. Ochoa, P.E., AIA

(Typed name)

January 17, 2011

DATE**BY (Signature)**

Michael D Smith

(Typed name)

1/17/2011

DATE**BY (Signature)**

Rene Campos

(Typed name)

1/20/11

DATE

C-5149-14-H



December 21, 2010

Mr. Eli R. Ochoa
ERO Architects
300 S. 8th St.
McAllen, Texas 78501

Re: PSJA ISD T Stem Early College High School (Old Memorial Middle School) Phase I
Renovations and Additions

As per our last meeting with your Design Team and PSJA ISD's Dr. King and Mr. Campos it was discussed that the Scope of Work should be redone to show more specifics and detail in the cost. The following Scopes were defined and itemized to show all the cost to fix the existing structure. We have estimated the reconstruction of the structure base on standard and typical construction but the Architect and Engineer will have to verify and design the final drawings to be able to finalize the final cost of construction.

Please review the following Scope and let us know if any further information is needed:

By General Contractor

SCOPE 1, Clean up of Collapsed area:

- a. Clean up all debris and haul off
- b. Saw cut existing concrete floor & roof at the edge of the existing concrete beam.
- c. Provide new Structural steel joist and concrete for 2nd floor and roof.

\$ 143,683.00

SCOPE 2, Rebuild Collapsed East side walls:

- a. Remove exist. Brick and structural clay unit walls
- b. Rebuild new walls with 12", 8" CMU units & Brick

\$ 351,769.00

SCOPE 3, Remove & Rebuild Existing West & East side walls:

- a. Remove exist. Brick and structural clay units walls
- b. Rebuild new walls with 12", 8" CMU units & Brick

\$ -20,246.00

CREDIT, Change Gypsum Board Wall to CMU wall

\$ 475,206.00

\$ 47,520.00

\$ 522,726.00

Total approximate price

Insurance, Overhead and Bond 10%

Grand Total

Thank you for the opportunity to provide our services and we look forward in working with you.

Respectfully submitted,

TEXAS DESCON, L.P.

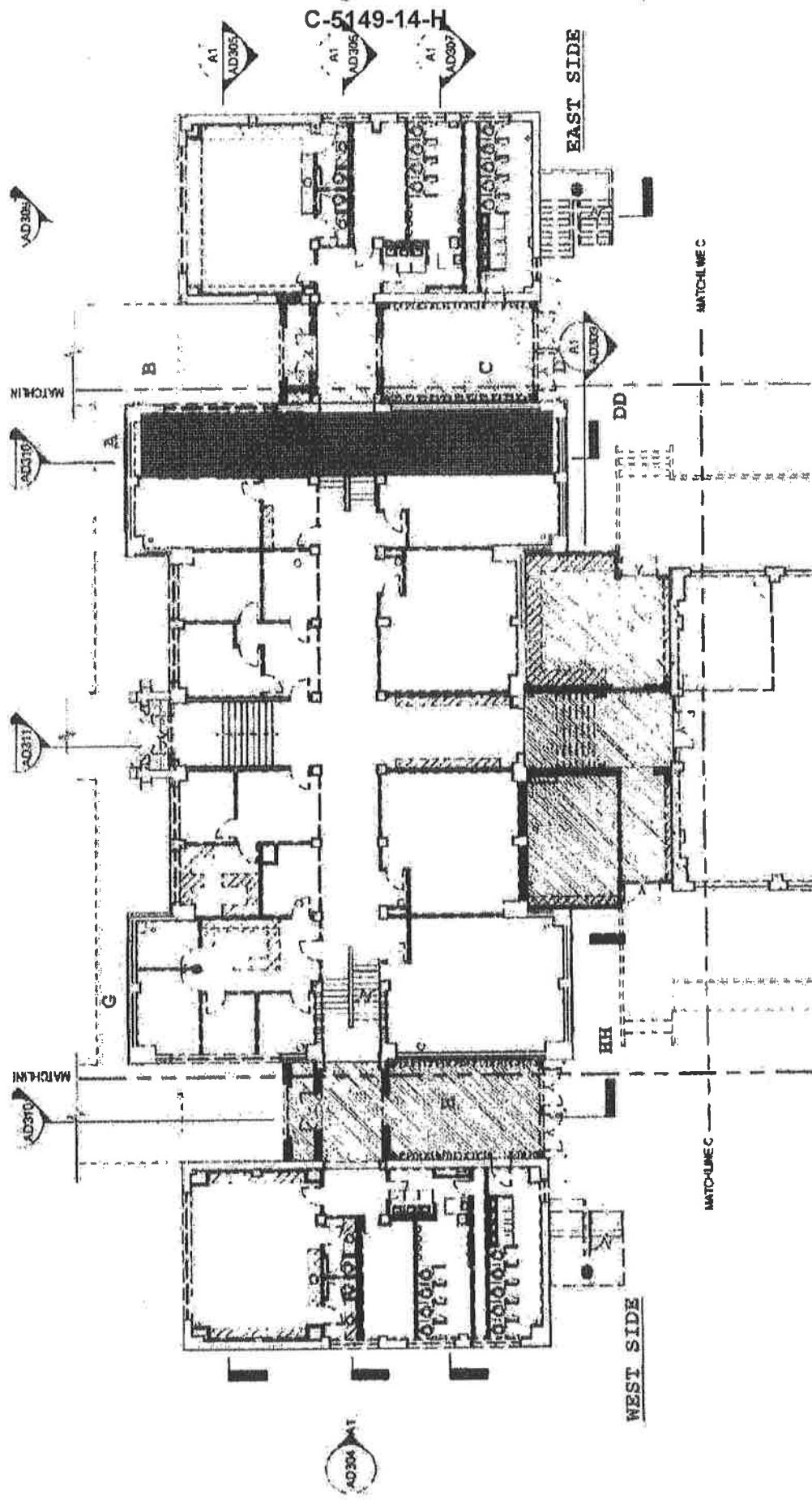
By DESCON 49, L.L.C.

Michael D. Smith
President

SCOPE 1

NORTH SIDE

■ NEW STEEL JOIST &
NEW 3" CONCRETE FLOOR



C-5149-14-H

TEXAS DESCN L.P.

PROJECT

PSJA ISD T STEM EARLY COLLEGE

McALLEN TEXAS

DESCRIPTION	QUANTITY	UNIT	L	M	S	UNIT COST	LABOR	MATERIAL	SUB
SCOPE 1:									
<u>COLLAPSED WALL MATERIAL REMOVAL</u>									
Clean up debris - Labor									
10M x 8H x 10D	800	HR	15				12,000		
Saw cut large concrete pieces									
12x 8x = 96 lf x 6 = 576 lf x 2	1152	LF				125			1,440
Miscellaneous Tools	1	LS				3500		3,500	
Haul off debris material	40	LDS				280			11,200
Debris Loading									
1M x 8H x 10D - Labor loading trucks	80	HR	15				1,200		
Equipment									
Boom Lift	2	WKS				2800			5,600
Backhoe	2	WKS				750			1,500
Crane Rental	24	HR				450			10,800
SCOPE 1 A									
<u>Concrete for floors / Roof</u>									
1410 SF x .25T / 27	27	CY		70				1,850	
Labor for concrete	1410	SF			2				2,820
Reinforcing Material	1	TON		425	280			425	280
Miscellaneous Material	1	LS		250				250	
Concrete Pump	2	RIPS			1800				3,600
Steel Joist for 2nd Floor & Roof	1410	SF		16	4			22,560	5,640
Metal Deck	1410	SF		25	1			3,525	1,410
TOTAL							13,300	32,150	44,290

Sheet No. _____

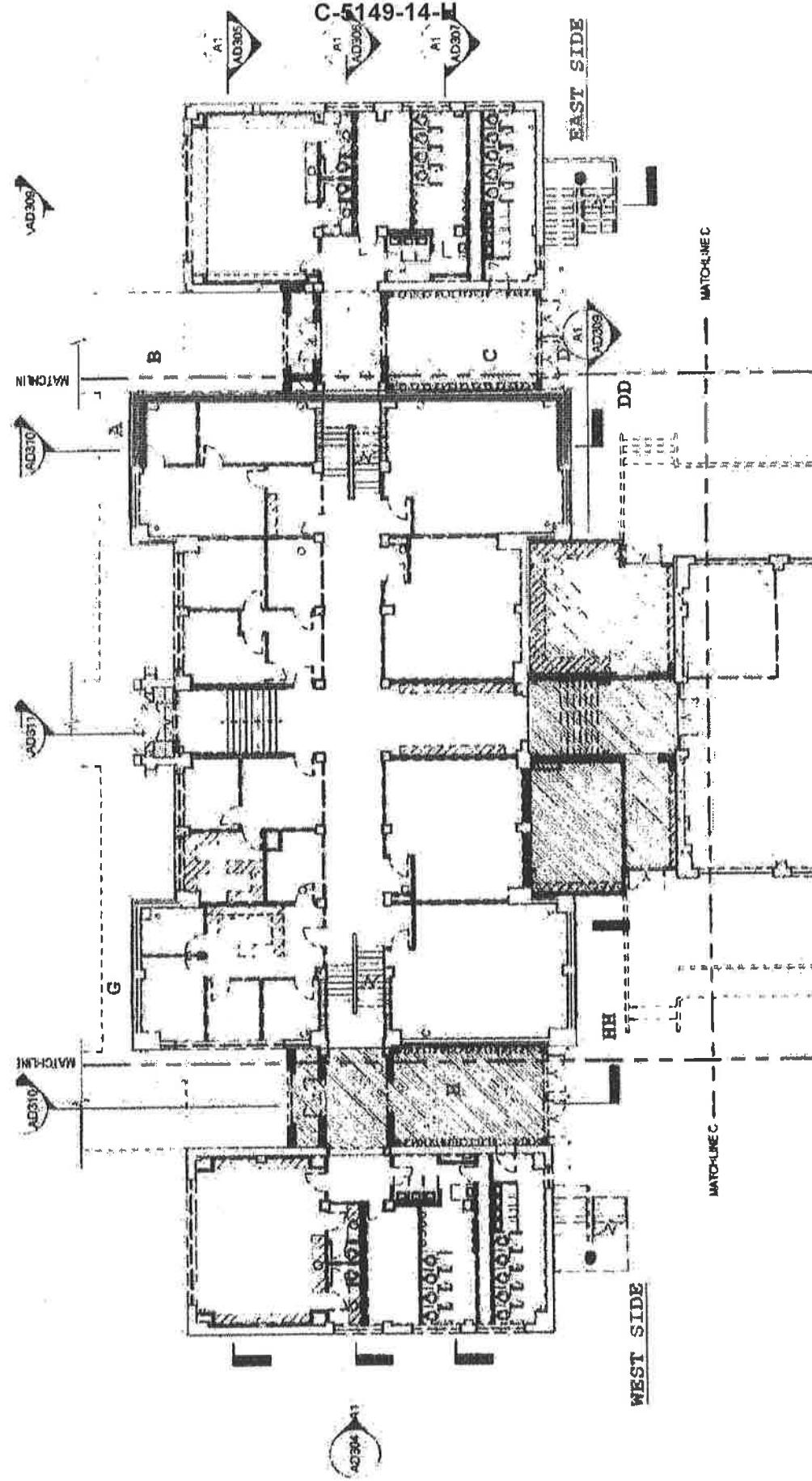
Item: _____

89,640

SCOPE 2

NORTH SIDE

SCOPE 2A — REMOVE EXIST BRICK WALLS
SCOPE 2B — NEW CMU WALLS



SOUTH SIDE

C-5149-14-H

TEXAS DESCON L.P.

PROJECT :

PSJA ISD T STEM EARLY COLLEGE

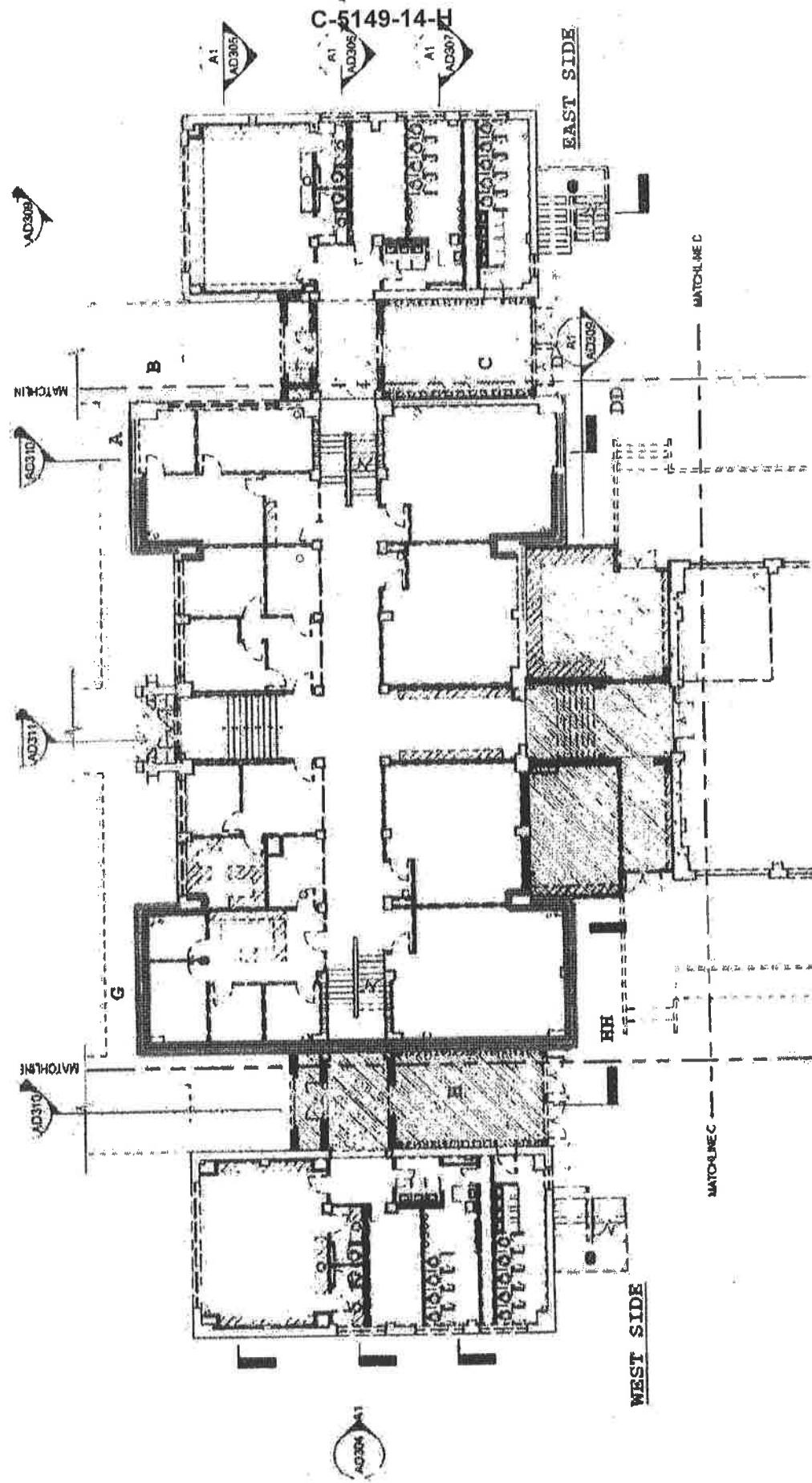
McALLEN TEXAS

DESCRIPTION	QUANTITY	UNIT	UNIT COST			LABOR	MATERIAL	SUB
			L	M	S			
SCOPE 2:								
Pipe Shoring Scaffolding Rental 706 SF / Floor = 2115 SF	2	MO	3250		13850	6,500		27,700
SCOPE 2 A - BRICK REMOVAL								
Existing Brick removal & salvage 24 LF x 42 H x 7.5 = 7,560 Bricks	1008	SF			8			8,064
Existing Structural Clay Brick removal Demo Structural clay brick	1008	SF			1			1,008
Equip for Brick & Clay Unit Walls Removal								
Boom Lift	2	WKS			1400			2,800
Backhoe	2	WKS			375			750
Scaffolding Exterior & Interior	1	LS			1250			1,250
Haul off debris material								
Truck loads	25	EA			280			7,000
Equipment Loader	25	EA			100			2,500
SCOPE 2 B - WALL REBUILD								
CMU Walls - Reinforced 8" CMU x 120 LF x 37 H = 4,440 SF	6000	EA			6.5			32,500
12" CMU x 120 LF x 10 H = 1,200 SF	1350	EA			7.5			10,125
CMU Concrete Reinforcement	24	CY		72			1,728	
CMU Steel Reinforcement	1	LS			4500			4,500
Core holes in Conc floor for CMU Reinf.								
120 LF / 2 = 60 Cores / floor x 3	180	EA		15	50		2,700	9,000
Prepare Base of Brick @ Exterior Wainscot	120	LF	15	10	20	1,800	1,200	2,400
Prepare Base of Wall @ Interior for CMU	120	LF	5	8		600	960	
Brick Installation								
24 LF x 42 H x 7.5 = 8000 Bricks	8	EA			600			4,800
Brick Accessories	1	LS			750			750
Cleaning of brick	1	LS			1000			1,000
Steel Concrete lintels	400	LF	2	5		800	2,000	
Damp proofing exterior walls								
Damp proofing 24 LF x 42 H	1008	SF	0.75	1.5		756	1,512	
Base & Sill Flashing 24 LF	24	LF	2	3		48	72	
Rigid Insulation	1008	SF	0.25	1		252	1,008	
Rough Carpentry								
Rough Carpentry @ Windows & Coping	520	LF	1	1.5		520	780	
Builders Hardware	1	LS		750			750	
Equipment For Brick & CMU Walls								
Boom Lift	2	WKS			1400			2,000
Backhoe	2	WKS			375			750
TOTAL						11,276	12,710	119,697

SCOPE 3

NORTH SIDE

SCOPE 3 A — REMOVE EXIST BRICK WALLS
SCOPE 3 B — NEW CMU WALLS



SOUTH SIDE

C-5149-14-H**TEXAS DESCON L.P.**

PROJECT

PSJA ISD T STEM EARLY COLLEGE**McALLEN TEXAS**

DESCRIPTION	QUANTITY	UNIT	UNIT COST			LABOR	MATERIAL	SUB
			L	M	S			

SCOPE 3 :

Pipe Shoring Scaffolding Rental 1410 SF / Floor = 2115 SF	2	MO	3250	13850	6,500			27,700
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SCOPE 3 A - BRICK REMOVAL - EAST

Existing Brick removal & salvage 40 LF x 42 H x 7.5 = 12,600 Bricks	1680	SF		8				13,440
Existing Structural Clay Brick removal Demo Structural clay brick	1680	SF		2				3,360
Equip for Brick & Clay Unit Walls Removal Boom Lift	2	WKS		1400				2,800
Backhoe	2	WKS		375				750
Scaffolding Exterior & Interior	1	LS		1250				1,250
Haul off debris material Truck loads	10	EA		280				2,800
Equipment Loader	10	EA		100				1,000

SCOPE 3 A - BRICK REMOVAL - WEST

Existing Brick removal & salvage 140 LF x 42 H x 7.5 = 44,100 Bricks	5880	SF		8				47,040
Existing Structural Clay Brick removal Demo Structural clay brick	5880	SF		1				5,880
Equip for Brick & Clay Unit Walls Removal Boom Lift	2	WKS		1400				2,800
Backhoe	2	WKS		375				750
Scaffolding Exterior & Interior	1	LS		1250				1,250
Haul off debris material Truck loads	10	EA		280				2,800
Equipment Loader	10	EA		100				1,000

TOTAL				6,500				114,620
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Sheet No. _____

Item: _____

121,120

C-5149-14-H

TEXAS DESCON L.P.

PROJECT

PSJA ISD T STEM EARLY COLLEGE

McALLEN TEXAS

DESCRIPTION	QUANTITY	UNIT	UNIT COST			LABOR	MATERIAL	SUB					
			L	M	S								
SCOPE 3 B - WALL REBUILD - EAST / WEST													
CMU Walls - Reinforced													
8" CMU x 230 LF x 37 H = 8,510 SF	9600	EA			6.5			62,400					
12" CMU x 230 LF x 10 H = 2,300 SF	2600	EA			7.5			19,500					
CMU Concrete Reinforcement	42	CY		72			3,024						
CMU Steel Reinforcement	1	LS			7500			7,600					
Core holes in Conc floor for CMU Reinf.													
230 LF / 2 = 115 Cores / floor x 3	345	EA		15	50		5,175	17,250					
Prepare Base of Brick @ Exterior Wainscot	230	LF	15	10	20	3,450	2,300	4,600					
Prepare Base of Wall @ Interior for CMU	230	LF	5	8		1,160	1,840						
Brick Installation													
180 LF x 42 H x 7.5 = 56,700 Bricks	57	EA			600			34,200					
Brick Accessories	1	LS			6800			6,800					
Cleaning of brick	1	LS			4000			4,000					
Steel Concrete lintels	1800	LF	2	5		3,200	8,000						
Damp proofing exterior walls													
Damp proofing 230 LF x 42 H	9660	SF	0.75	1.5		7,245	14,490						
Base & Sill Flashing 230 LF	230	LF	2	3		460	690						
Rigid insulation	9660	SF	0.25	1		2,415	9,660						
Rough Carpentry													
Rough Carpentry @ Windows & Coping	2080	LF	1	1.5		2,080	3,120						
Builders Hardware	1	LS		2550			2,550						
Equipment For Brick & CMU Walls													
Boom Lift	2	WKS			1400			2,800					
Backhoe	2	WKS			375			750					
TOTAL													
						20,000	50,849	159,800					

Sheet No. _____

Item: _____

230,649

TEXAS DESCON L.P.
McALLEN TEXAS

C-5149-14-H

PROJECT:

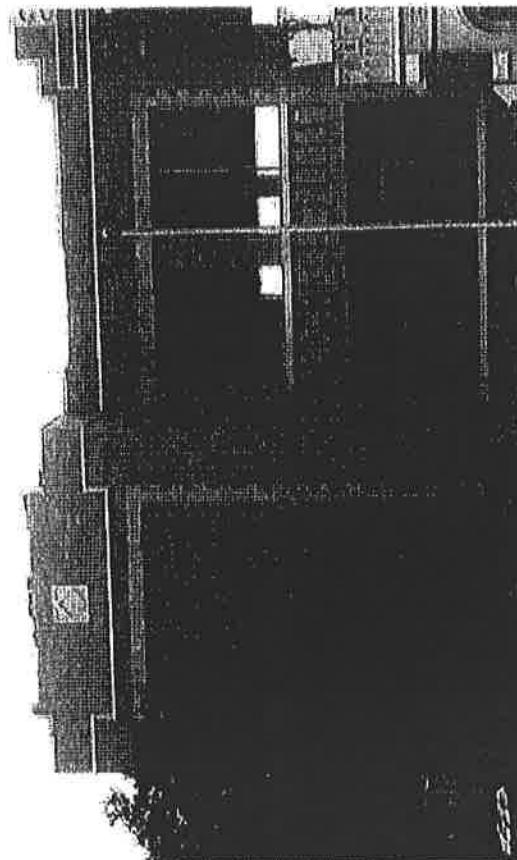
PSJA ISD T STEM EARLY COLLEGE

DESCRIPTION	QUANTITY	UNIT	UNIT COST			LABOR	MATERIAL	SUB					
			L	M	S								
CREDIT FOR GYP. BD. WALLS													
BASEMENT													
Wall type - 7, 66 L.F. x 9'	495	SF		-3				(1,485)					
4" Metal Stud wall w/ two layers 5/8" type x High Impact GWB on one side													
Wall type - 8, 177 L.F. X 9'	1503	SF		-3.15				(5,018)					
2 1/2" Metal Stud wall w/ one layer 5/8" type x High impact GWB on one side w/ 1" air space w/ 2" Rigid Insulation Board													
Wall type - 10, 23 L.F. X 9'	207	SF		-3.25				(673)					
4" Metal stud wall w/ one layer 5/8" type x High impact GWB on one side w/ 1" air space w/ 2" Rigid Insulation Board													
FIRST FLOOR													
Wall type - 5, 134 L.F. X 9'	1206	SF		-3.25				(3,920)					
4" Metal stud wall w/ one layer 5/8" type x High Impact GWB on one side w/ 1" air space w/ 2" Rigid Ins. Bd. On Exist Wall													
Wall type - 7, 66 L.F. X 9'	495	SF		-3				(1,485)					
4" Metal Stud wall w/ two layers 5/8" type x High Impact GWB on one side													
Wall type - 10, 38 L.F. X 9'	342	SF		-3.25				(1,112)					
4" Metal stud wall w/ one layer 5/8" type x High Impact GWB on one side w/ 1" air space w/ 2" Rigid Insulation Board													
SECOND FLOOR													
Wall type - 5, 156 L.F. X 9'	1404	SF		-3.25				(4,563)					
4" Metal stud wall w/ one layer 5/8" type x High impact GWB on one side w/ 1" air space w/ 2" Rigid Ins. Bd. On Exist Wall													
Wall type - 7, 12 L.F. X 9'	108	SF		-3				(324)					
4" Metal Stud wall w/ two layers 5/8" type x High Impact GWB on one side													
Wall type - 10, 57 L.F. X 9'	513	SF		-3.25				(1,667)					
4" Metal stud wall w/ one layer 5/8" type x High Impact GWB on one side w/ 1" air space w/ 2" Rigid Insulation Board													
TOTAL								(20,246)					

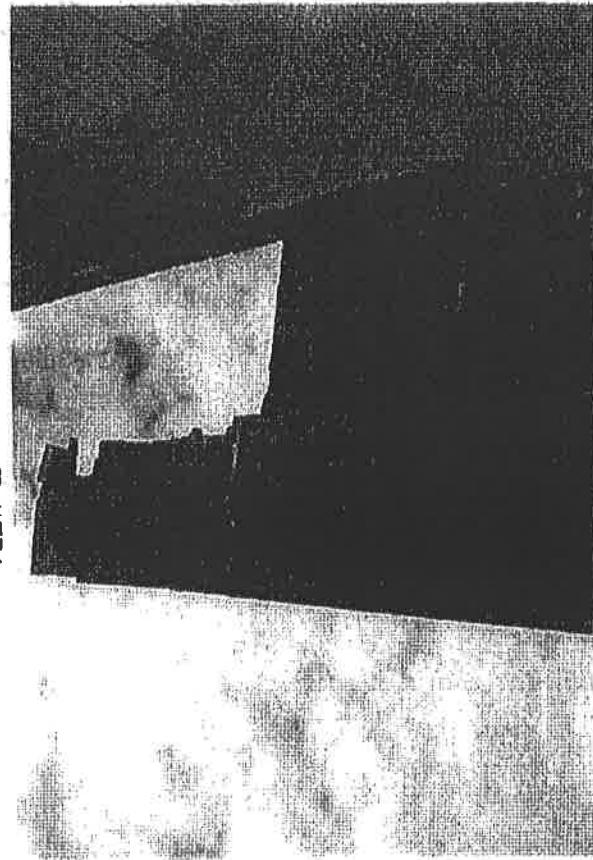
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C-5149-14-H



VIEW A



VIEW D

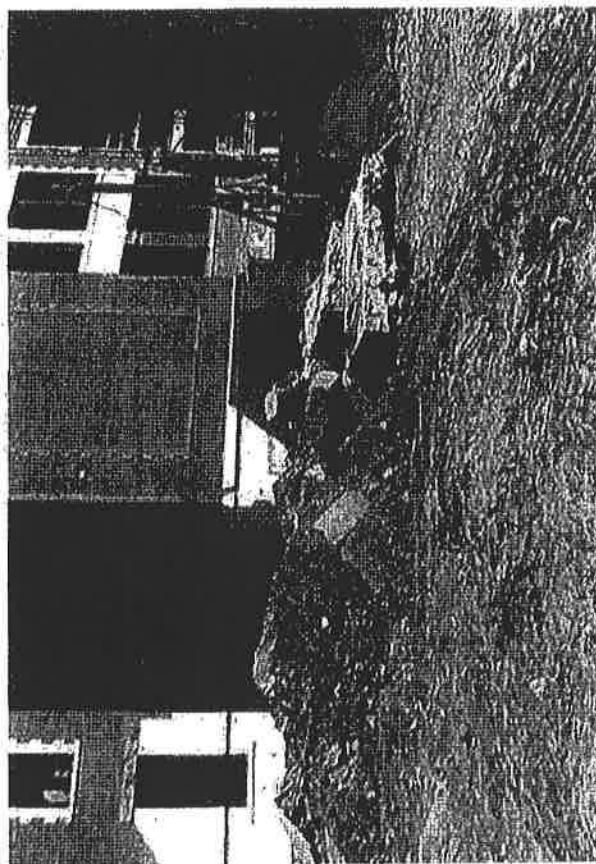


VIEW C

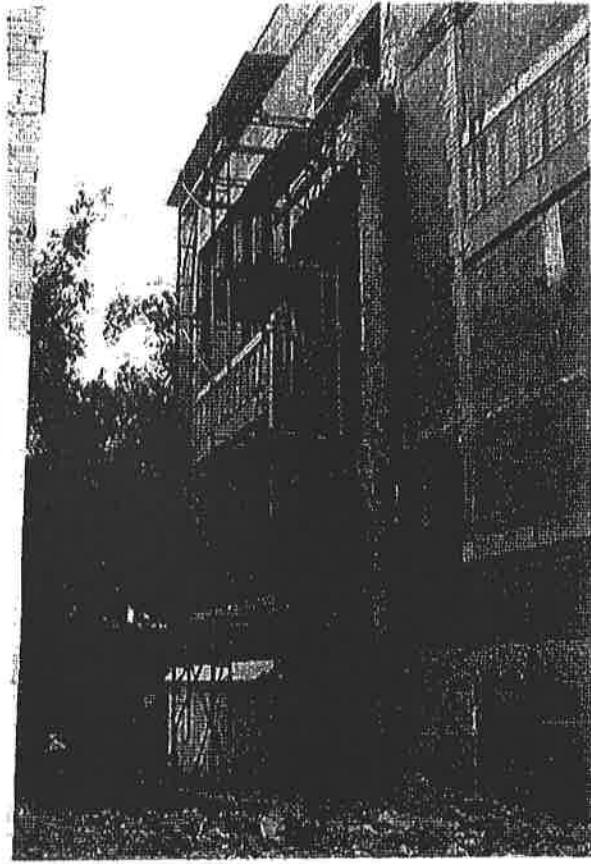


VIEW B

C-5149-14-H



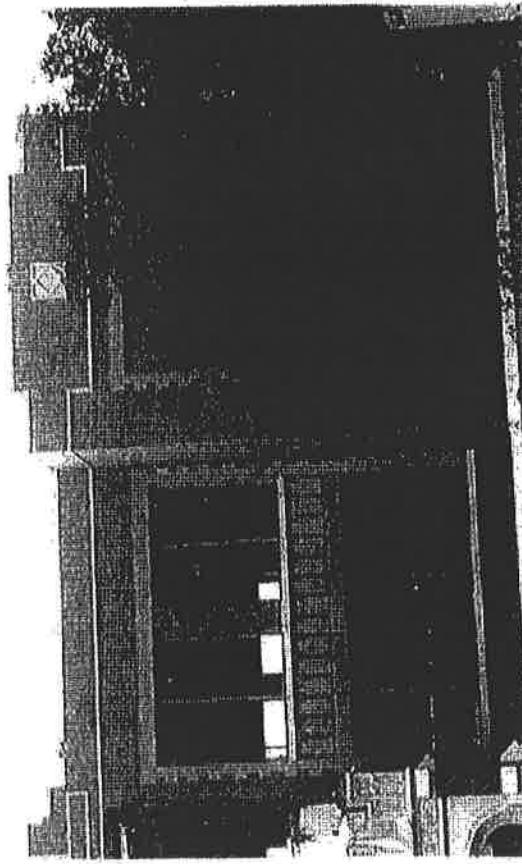
VIEW E



VIEW H



VIEW D



VIEW G

C-5149-14-H

Bradford Russell, AIA, P.E.
Architect / Structural Engineer / LEED AP

Director of Architecture / Engineering
BR Architects, Inc. - Architects & Structural Engineers

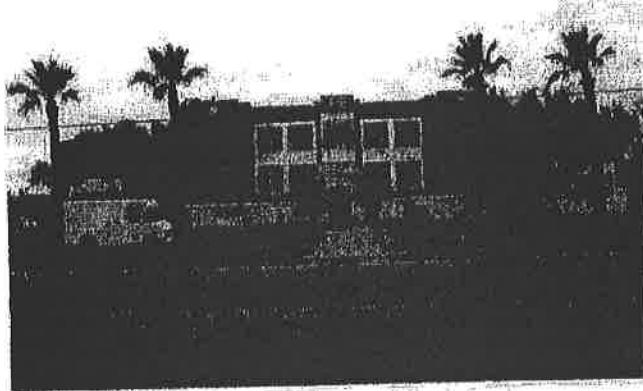
2007 N. Collins Blvd., Suite 507
Richardson, Texas 75080

Direct (972) 235-9308
Fax (972) 235-9388

C-5149-14-H

PROPERTY CONDITION REPORT
Memorial Middle School
Pharr-San Juan-Alamo Independent School District
714 E. U.S. Highway 83
Pharr, Texas 78577
Terracon Project No. 92088503

Prepared For:
Prepared For:
ERO International, LLP
4401 Westgate Boulevard, Suite 330
Austin, Texas 78745



Prepared By:

Terracon

February 22, 2008

C-5149-14-H

February 22, 2008



Mr. Jesus V. Delgado, AIA
ERO International, LLP
4401 Westgate Boulevard, Suite 330
Austin, Texas 78745
Phone: (512) 358-0100
Fax: (512) 358-0103
Email: jdelgado@erointernational.com

Re: **PROPERTY CONDITION ASSESSMENT**

Memorial Middle School
714 E. U.S. Highway 83
Pharr-San Juan-Alamo Independent School District
Pharr, Texas 78577
Terracon Project No. 92088503

Mr. Delgado,

Terracon is pleased to provide this Property Condition Assessment of the subject improvements. This work was performed in general accordance with the authorized scope of services as identified in the scope section of this Report.

We appreciate the opportunity to provide professional engineering services to you. If you have any questions concerning this Report, or if we can assist you in any other matter, please call our office at the above referenced phone number.

Sincerely,

Terracon

A handwritten signature in black ink that appears to read "Bill Stice".

William (Bill) Stice, R.E.F.P.
Project Manager
Facilities Services

A handwritten signature in black ink that appears to read "David Tyner".

David Tyner, E.I.T.
Staff Mechanical Engineer
Facilities Services

A handwritten signature in black ink that appears to read "Gerald F. A. Lowe".

Gerald F. A. Lowe, P.E.
Project Manager
Facilities Services

A handwritten signature in black ink that appears to read "Jeffrey A. Miller".

Jeffrey A. Miller, P.E., C.B.C.P.
Senior Mechanical Engineer
Facilities Services

Attached: Property Condition Assessment
Distribution: 3 copies to addressee

C 5149-14-H
 Property Condition Assessment-Terracon Project Number 92088503
 Memorial Middle School – Pharr, Texas
 February 22, 2008

Terracon

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Appendix A – Exhibits (FEMA Flood Plain Determination)

Appendix B – Photographic Documentation

C-5149-14-H

Property Condition Report-Terracon
 Memorial Middle School
 Terracon Project # 92088503
 February 22, 2008

Terracon

I. EXECUTIVE SUMMARY**A. General Property Identification Summary**

Item	Description
Property Name	Memorial Middle School
Property Address	714 E. Highway U. S. 83, Pharr, Texas
Type of Facility	School
Site Area (Acres)	Approx. 9.5-acres
Total Parking Spaces	83
Number of Buildings	7
Number of Stories	1 & 3
Building(s) Area (SF)	85,202
Year(s) Constructed	1918, 1976, 1986
Year(s) Renovated	1976, 1986
General Const.	The buildings have wood framing or steel framing; masonry bearing walls, face brick veneer, or CMU infill; metal frame windows, wood and metal doors; composition shingle, BUR, or modified bitumen roof systems, and DX HVAC systems.
Date of Site Visit	January 7, 2008
Survey Conducted By	G. F. A. Lowe, P.E., S.E.; D. Tyner, E.I.T.; W. Stice, R.E.F.P.

B. Estimated Required Expenditures**Estimated Repair Cost Summary**

	Total Cost
Time Period for Repair	0 to 1 YR
Total Estimated Repair Costs	\$4,668,600

Capital Expenditure & Reserve Summary

	Total Cost
Evaluation Term	5
Building(s) Area	85,202
Total Capital Expenditure	N/A
Total Inflated Capital Expenditure	N/A
Inflation Factor	N/A
Total Capital Reserve (per SF per Year)	N/A
Total Inflated Capital Reserve (per SF per Year)	N/A